



TRENDS IN MATERNAL MORTALITY

2000 to 2017

Estimates by WHO, UNICEF, UNFPA,
World Bank Group and
the United Nations Population Division

EXECUTIVE SUMMARY

Background

The Sustainable Development Goals (SDGs) were launched on 25 September 2015 and came into force on 1 January 2016 for the 15-year period until 31 December 2030. Among the 17 SDGs, the direct health-related targets come under **SDG 3: Ensure healthy lives and promote well-being for all at all ages**. With the adoption of the SDGs, the United Nations Member States extended the global commitments they had made in 2000 to the Millennium Development Goals (MDGs), which covered the period until 2015.

In anticipation of the launch of the SDGs, the World Health Organization (WHO) released a consensus statement and full strategy paper on ending preventable maternal mortality (EPMM). The EPMM target for reducing the global maternal mortality ratio (MMR) by 2030 was adopted as **SDG target 3.1: reduce global MMR to less than 70 per 100 000 live births by 2030**.

Having targets for mortality reduction is important, but accurate measurement of maternal mortality remains challenging and many deaths still go uncounted. Many countries still lack well functioning civil registration and vital statistics (CRVS) systems, and where such systems do exist, reporting errors – whether incompleteness (unregistered deaths, also known as “missing”) or misclassification of cause of death – continue to pose a major challenge to data accuracy.

Methods and interpretation

The United Nations Maternal Mortality Estimation Inter-Agency Group (UN MMEIG) – comprising WHO, the United Nations Children (UNICEF), the United Nations Population Fund (UNFPA), the World Bank Group

and the United Nations Population Division (UNPD) of the Department of Economic and Social Affairs – has collaborated with external technical experts on a new round of estimates for 2000–2017. To provide increasingly accurate MMR estimates, the previous estimation methods have been refined to optimize use of country-level data. Consultations with countries were carried out during May and June 2019. This process generated additional data for inclusion in the maternal mortality estimation model, demonstrating widespread expansion of in-country efforts to monitor maternal mortality.

This report presents internationally comparable global, regional and country-level estimates and trends for maternal mortality between 2000 and 2017.¹ Countries and territories included in the analyses are WHO Member States with populations over 100 000 in 2019, plus two territories (Puerto Rico, and the West Bank and Gaza Strip).² The results described in this summary are the first available estimates for maternal mortality for the SDG reporting period; but since two years (2016 and 2017) is not sufficient to show trends, estimates have been developed and presented covering the period 2000 to 2017. The new estimates presented in this report supersede all previously published estimates for years that fall within the same time period. Care should be taken to use only these estimates for the interpretation of trends in maternal mortality from 2000 to 2017; due to modifications in methodology and data availability, differences between these and previous estimates should not be interpreted as representing time trends. In addition, when interpreting changes in MMRs over time, one should take into consideration that it is easier to reduce the MMR when the level is high than when the MMR level is already low. The full database, country profiles and all model specification codes used are available online.³

¹ Estimates have been computed to ensure comparability across countries, thus they are not necessarily the same as official statistics of the countries, which may use alternative rigorous methods.

² Puerto Rico is an Associate Member, and the West Bank and Gaza Strip is a member in the regional committee for the WHO Eastern Mediterranean Region.

³ Available at: www.who.int/reproductivehealth/publications/maternal-mortality-2017/en/.



Global estimates for 2017 and trends for 2000–2017

The global estimates for the year 2017 indicate that there were 295 000 (UI 279 000 to 340 000)⁴ maternal deaths; 35% lower than in 2000 when there were an estimated 451 000 (UI 431 000 to 485 000) maternal deaths. The global MMR in 2017 is estimated at 211 (UI 199 to 243) maternal deaths per 100 000 live births, representing a 38% reduction since 2000, when it was estimated at 342. The average annual rate of reduction (ARR) in global MMR during the 2000–2017 period was 2.9%; this means that, on average, the global MMR declined by 2.9% every year between 2000 and 2017. The global lifetime risk of maternal mortality for a 15-year-old girl in 2017 was estimated at 1 in 190; nearly half of the level of risk in 2000: 1 in 100. The overall proportion of deaths to women of reproductive age (15–49 years) that are due to maternal causes (PM) was estimated at 9.2% (UI 8.7% to 10.6%) in 2017 – down by 26.3% since 2000. This means that compared with other causes of death to women of reproductive age, the fraction attributed to maternal causes is decreasing. In addition, the effect of HIV on maternal mortality in 2017 appears to be less pronounced than in earlier years; HIV-related indirect maternal deaths now account for approximately 1% of all maternal deaths compared with 2.5% in 2005, at the peak of the epidemic.

Regional and country-level estimates for 2017

MMR in the world's least developed countries (LDCs) is high,⁵ estimated at 415 maternal deaths per 100 000 live births (UI 396 to 477), which is more than 40 times higher than that for MMR in Europe (10; UI 9 to 11), and almost 60 times higher than in Australia and New Zealand (7; UI 6 to 8). In the world's LDCs, where an estimated 130 000 maternal deaths occurred in 2017, the estimated lifetime risk of maternal death was 1 in 56. Sub-Saharan Africa is the only region with very high MMR for 2017, estimated at 542 (UI 498 to 649), while the lifetime risk of maternal death was 1 in 37, compared with just 1 in 7800 in Australia and New Zealand.

Moderate MMR (100–299) was estimated in Northern Africa, Oceania (excluding Australia and New Zealand), Southern Asia, South-Eastern Asia and in small island developing states. Four subregions (Australia and New Zealand, Central Asia, Eastern Asia, Western Asia) and two regions (Latin America and the Caribbean, and Europe and Northern America) have low MMR (< 100 maternal deaths per 100 000 live births) (see Table 1).

Sub-Saharan Africa and Southern Asia accounted for approximately 86% (254 000) of the estimated global maternal deaths in 2017 with sub-Saharan Africa alone accounting for roughly 66% (196 000), while Southern Asia accounted for nearly 20% (58 000). South-Eastern Asia, in addition, accounted for over 5% of global maternal deaths (16 000).

Three countries are estimated to have had extremely high MMR in 2017 (defined as over 1000 maternal deaths per 100 000 live births): South Sudan (1150; UI 789 to 1710), Chad (1140; UI 847 to 1590) and Sierra Leone (1120; UI 808 to 1620). Sixteen other countries, all also in sub-Saharan Africa except for one (Afghanistan), had very high MMR in 2017 (i.e. estimates ranging between 500 and 999). Only three countries in sub-Saharan Africa had low MMR: Mauritius (61; UI 46 to 85), Cabo Verde (58; UI 45 to 75) and Seychelles (53; UI 26 to 109). Only one country outside the sub-Saharan African region had high MMR: Haiti (480; UI 346 to 718). Ninety countries were estimated to have MMR of 50 or less in 2017.

Nigeria and India had the highest estimated numbers of maternal deaths, accounting for approximately one third (35%) of estimated global maternal deaths in 2017, with approximately 67 000 and 35 000 maternal deaths (23% and 12% of global maternal deaths), respectively. Three other countries also had 10 000 maternal deaths or more: the Democratic Republic of the Congo (16 000), Ethiopia (14 000) and the United Republic of Tanzania (11 000). Sixty-one countries were estimated to have had just 10 or fewer maternal deaths in 2017.

⁴ All uncertainty intervals (UIs) reported are 80% UI. The data can be interpreted as meaning that there is an 80% chance that the true value lies within the UI, a 10% chance that the true value lies below the lower limit and a 10% chance that the true value lies above the upper limit.

⁵ For the purpose of categorization, MMR is considered to be low if it is less than 100, moderate if it is 100–299, high if it is 300–499, very high if it is 500–999 and extremely high if it is equal to or higher than 1000 maternal deaths per 100 000 live births.

EXECUTIVE SUMMARY

Table 1. Estimates of maternal mortality ratio (MMR, maternal deaths per 100 000 live births), number of maternal deaths, lifetime risk and proportion of deaths among women of reproductive age that are due to maternal causes (PM), by United Nations Sustainable Development Goal (SDG) region, subregion and other grouping, 2017

SDG region ^a	MMR ^a point estimate and range of uncertainty interval (UI: 80%)			Number of maternal deaths ^b	Lifetime risk of maternal death ^c	PM ^d (%)
	Lower UI	MMR point estimate	Upper UI			
World	199	211	243	295 000	190	9.2
Sub-Saharan Africa	498	542	649	196 000	37	18.2
Northern Africa and Western Asia	73	84	104	9 700	380	5.9
Northern Africa	91	112	145	6 700	260	8.4
Western Asia	45	55	69	3 000	650	3.6
Central and Southern Asia	131	151	181	58 000	260	6.6
Central Asia	21	24	28	390	1 400	1.7
Southern Asia	136	157	189	58 000	250	6.8
Eastern and South-Eastern Asia	61	69	85	21 000	790	3.3
Eastern Asia	22	28	35	5 300	2 200	1.5
South-Eastern Asia	115	137	173	16 000	320	5.5
Latin America and the Caribbean	70	74	81	7 800	630	3.8
Oceania	34	60	120	400	690	4.1
Australia and New Zealand	6	7	8	26	7 800	0.6
Oceania (excl. Australia and New Zealand)	69	129	267	380	210	6.5
Europe and Northern America	12	12	14	1 500	4 800	0.6
Europe	9	10	11	740	6 500	0.5
Northern America	16	18	20	760	3 100	0.9
Landlocked developing countries	378	408	484	65 000	57	17.4
Least developed countries	396	415	477	130 000	56	17.5
Small island developing States	178	210	277	2 600	190	8.5

UI: uncertainty interval.

^a The country groupings are based on the geographic regions defined under the Standard Country or Area Codes for Statistical Use (known as M49) <https://unstats.un.org/sdgs/report/2019/regional-groups/>.

^b MMR estimates have been rounded according to the following scheme: < 100 rounded to nearest 1; 100–999 rounded to nearest 1; and ≥ 1000 rounded to nearest 10, and all calculations are based on rounded numbers.

^c Numbers of maternal deaths have been rounded according to the following scheme: < 100 rounded to nearest 1; 100–999 rounded to nearest 10; 1000–9999 rounded to nearest 100; and ≥ 10 000 rounded to nearest 1000.

^d Lifetime risk numbers have been rounded according to the following scheme: < 100 rounded to nearest 1; 100–999 rounded to nearest 10; and ≥ 1000 rounded to nearest 100.

^e The number of maternal deaths in a given time period divided by the total deaths among women aged 15–49 years.



In 2017, according to the Fragile States Index, 15 countries were considered to be “very high alert” or “high alert”⁶ (from highest to lowest: South Sudan, Somalia, Central African Republic, Yemen, Syrian Arab Republic, Sudan, the Democratic Republic of the Congo, Chad, Afghanistan, Iraq, Haiti, Guinea, Nigeria, Zimbabwe and Ethiopia), and these 15 countries had MMRs in 2017 ranging from 31 (Syrian Arab Republic) to 1150 (South Sudan).

Regional and country-level trends, 2000–2017

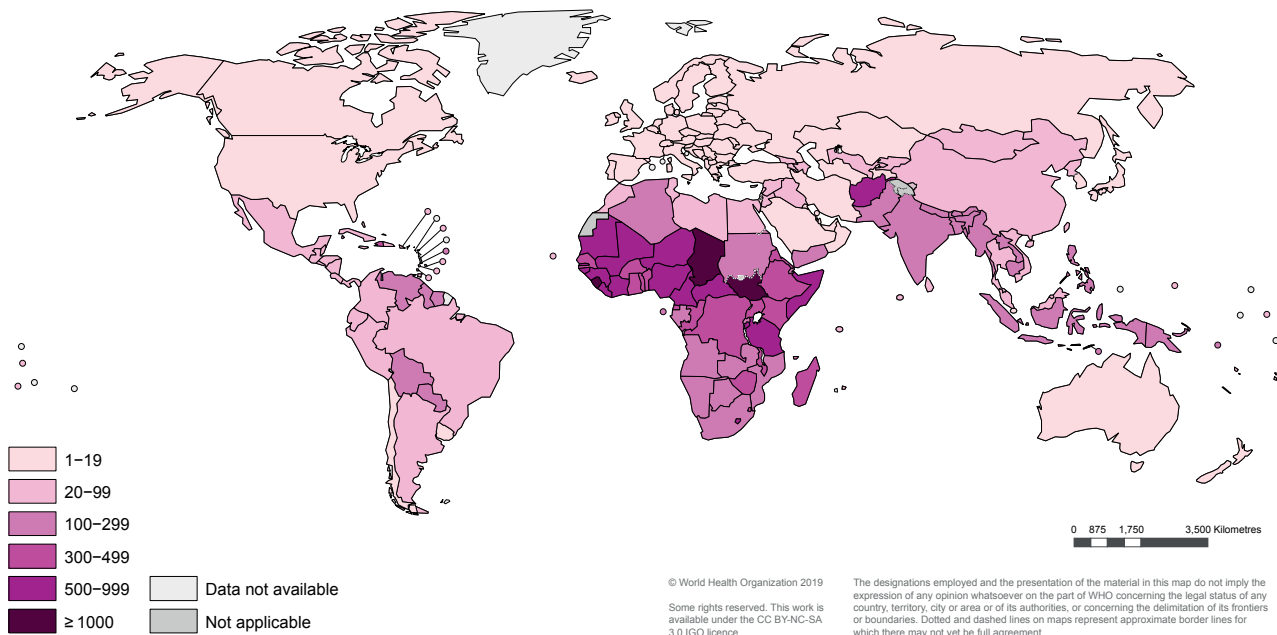
Between 2000 and 2017, the subregion of Southern Asia achieved the greatest overall percentage reduction in MMR: 59% (from 384 to 157). This equates to an average ARR of 5.3%. Four other subregions roughly halved their MMRs during this period: Central Asia (52%), Eastern Asia (50%), Europe (53%) and Northern Africa (54%). MMR in LDCs also declined by 46%. Despite its very high MMR in 2017, sub-Saharan Africa

as a region also achieved a substantial reduction in MMR of roughly 38% since 2000. Notably, one subregion with very low MMR (12) in 2000 – Northern America – had an *increase* in MMR of almost 52% during this period, rising to 18 in 2017. This is likely related to already low levels of MMR, as well as improvements in data collection, changes in life expectancy and/or changes in disparities between subpopulations.

The greatest declines in proportion of deaths among women of reproductive age that are due to maternal causes (PM) occurred in two regions: Central and Southern Asia (56.4%), and Northern Africa and Western Asia (42.6%). Almost no change was seen in PM in Europe and Northern America.

The 10 countries with the highest MMRs in 2017 (in order from highest to lowest: South Sudan, Chad, Sierra Leone, Nigeria, Central African Republic, Somalia, Mauritania, Guinea-Bissau, Liberia, Afghanistan) all

Figure 1. Maternal mortality ratios, by country, 2017



⁶ The Fragile States Index is an assessment of 178 countries based on 12 cohesion, economic, social and political indicators, resulting in a score that indicates their susceptibility to instability. Further information about indicators and methodology is available at: <https://fragilestatesindex.org/>. At the top of the range (most fragile), the scores are categorized as follows: > 110 = very high alert; 100–110 = high alert. These two categories include the 15 most fragile countries mentioned here. There are 10 other categories ranging from “very sustainable” to “alert”, which include the remaining 163 countries.

have ARR between 2000 and 2017 of less than 5%. When comparing the ARR between the year ranges of 2000–2010 and 2010–2017, these 10 countries have also had stagnant or slowing levels of ARR and therefore remain at greatest risk. The impact of interruptions or loss of quality health services must be considered in crisis and other unstable situations.

Countries that achieved the highest ARR between 2000 and 2017 (an average ARR of 7% or above), starting with the highest, were Belarus, Kazakhstan, Timor-Leste, Rwanda, Turkmenistan, Mongolia, Angola and Estonia (see Table 2). In considering the uncertainty intervals around their average ARRs, we can only be very sure about this high level of acceleration in Belarus, Kazakhstan, Timor-Leste and Rwanda. In 13 countries, MMR increased in the same period. In considering the uncertainty around the rate and direction of change, we believe there have been true MMR increases in the United States of America and the Dominican Republic. These findings must be considered in context – as many factors may drive positive and negative trends in maternal mortality.

Conclusions

The SDGs include a direct emphasis on reducing maternal mortality while also highlighting the importance of moving beyond survival. Despite the ambition to end preventable maternal deaths by 2030, the world will fall short of this target by more than 1 million lives with the current pace of progress. There is a continued urgent need for maternal health and survival to remain high on the global health and development agenda; the state of maternal health interacts with and reflects efforts to improve the accessibility and quality of care. The 2018 Declaration of Astana repositioned primary health care as the most (cost) effective and inclusive means of delivering health services to achieve the SDGs. Primary health care is thereby considered the cornerstone for achieving universal health coverage (UHC), which only exists when all people receive the quality health services they need without suffering financial hardship. Health services that are unavailable, inaccessible or of poor quality, however, will not support the achievement of UHC, as envisioned. Efforts to increase the provision of skilled and competent care to more women, before, during and after childbirth, must also be seen in the context of external forces including but not limited to climate change, migration and humanitarian crises – not only because of the environmental risks presented, but also because of their contribution to health complications.

In addition, governments are called upon to establish well functioning CRVS systems with accurate attribution of cause of death. Improvements in measurement must be driven by action at the country level, with governments creating systems to capture data specific to their information needs; systems that must also meet the standards required for international comparability. Globally, standardized methods for preventing errors in CRVS reporting (i.e. incompleteness and misclassification) should be established to enhance international comparability.

In consideration of the above, it must be noted that this report on the levels and trends of maternal mortality provides just one critical facet of information, which synthesizes and draws from the available data, to assess one aspect of global progress towards achieving global goals for improved health and sustainable development. In the context of efforts to achieve UHC, improving maternal health is critical to fulfilling the aspiration to reach SDG 3. One can only hope that the global community will not be indifferent to the shortfalls that are expected if we cannot improve the current rate of reduction in maternal mortality. Ultimately, we need to expand horizons beyond a sole focus on mortality, to look at the broader aspects – country and regional situations and trends including health systems, UHC, quality of care, morbidity levels and socioeconomic determinants of women's empowerment and education – and ensure that appropriate action is taken to support family planning, healthy pregnancy and safe childbirth.



Table 2. Trends in estimates of maternal mortality ratio (MMR, maternal deaths per 100 000 live births), by country and territory, 2000–2017^a

Country and territory	MMR point estimates ^{a,b}					Overall change in MMR between 2000 and 2017 ^c (%)	Average annual rate of reduction (ARR) point estimate and range of uncertainty interval on ARR between 2000 and 2017 (UI: 80%) (%)		
	2000	2005	2010	2015	2017		Lower UI	Average ARR point estimate ^d	Upper UI
Afghanistan	1450	1140	954	701	638	56	1.4	4.8	7.3
Albania	23	22	21	15	15	35	-0.1	2.5	5.7
Algeria	161	127	115	114	112	30	-0.5	2.1	4.4
Angola	827	519	326	251	241	71	5.4	7.2	9.3
Antigua and Barbuda	44	40	44	43	42	5	-1.8	0.2	2.4
Argentina	66	59	51	41	39	41	2.1	3.1	4.2
Armenia	43	35	32	28	26	40	1.5	3.0	4.3
Australia	7	5	5	6	6	14	-1.4	0.2	1.7
Austria	6	6	5	5	5	17	-0.5	1.6	3.1
Azerbaijan	47	42	31	27	26	45	2.2	3.5	4.9
Bahamas	75	77	78	74	70	7	-2.4	0.4	2.6
Bahrain	27	19	18	15	14	48	1.6	3.6	5.4
Bangladesh	434	343	258	200	173	60	3.4	5.4	7.1
Barbados	50	42	36	31	27	46	1.9	3.7	6.0
Belarus	22	11	5	3	2	91	9.6	13.0	16.7
Belgium	8	7	6	5	5	38	1.0	2.5	4.1
Belize	89	70	54	43	36	60	3.7	5.3	7.5
Benin	520	500	464	421	397	24	-0.4	1.6	3.2
Bhutan	423	310	247	203	183	57	2.1	4.9	7.0
Bolivia (Plurinational State of)	331	271	212	168	155	53	2.7	4.5	6.2
Bosnia and Herzegovina	17	13	11	10	10	41	1.3	3.3	6.3
Botswana	262	239	179	156	144	45	2.1	3.5	4.7
Brazil	69	71	65	63	60	13	0.7	0.9	1.1
Brunei Darussalam	28	29	28	30	31	-11	-2.5	-0.7	1.6
Bulgaria	19	15	12	10	10	47	1.9	4.0	6.5
Burkina Faso	516	437	385	343	320	38	0.9	2.8	4.9
Burundi	1010	814	665	568	548	46	1.7	3.6	5.5
Cabo Verde	118	86	70	61	58	51	2.5	4.2	5.7
Cambodia	488	351	248	178	160	67	4.6	6.6	8.4
Cameroon	886	692	597	554	529	40	0.8	3.0	4.8
Canada	9	11	11	11	10	-11	-2.5	-0.6	1.2

EXECUTIVE SUMMARY

Table 2 (continued). Trends in estimates of maternal mortality ratio (MMR, maternal deaths per 100 000 live births), by country and territory, 2000–2017^a

Country and territory	MMR point estimates ^{a,b}					Overall change in MMR between 2000 and 2017 ^c (%)	Average annual rate of reduction (ARR) point estimate and range of uncertainty interval on ARR between 2000 and 2017 (UI: 80%) (%)		
	2000	2005	2010	2015	2017		Lower UI	Average ARR point estimate ^d	Upper UI
Central African Republic	1280	1200	1000	912	829	35	0.3	2.6	4.9
Chad	1420	1330	1240	1160	1140	20	-0.7	1.3	2.9
Chile	31	25	20	14	13	58	4.3	5.4	6.7
China	59	44	36	30	29	51	2.9	4.2	6.0
Colombia	94	83	85	85	83	12	-0.4	0.8	1.7
Comoros	444	404	341	285	273	39	0.8	2.9	4.9
Congo	739	677	506	416	378	49	2.0	3.9	5.7
Costa Rica	40	33	32	28	27	33	1.2	2.2	3.4
Côte d'Ivoire	704	704	701	658	617	12	-1.2	0.8	2.7
Croatia	11	10	9	8	8	27	0.0	2.0	3.7
Cuba	46	41	41	38	36	22	0.6	1.4	2.2
Cyprus	14	12	8	7	6	57	2.9	4.9	7.0
Czechia	7	5	4	4	3	57	2.0	4.0	6.3
Democratic People's Republic of Korea	139	120	106	91	89	36	0.2	2.6	4.9
Democratic Republic of the Congo	760	627	542	490	473	38	0.1	2.8	4.7
Denmark	8	6	5	4	4	50	2.8	4.3	6.2
Djibouti	507	393	283	247	248	51	2.0	4.2	6.5
Dominican Republic	80	83	96	94	95	-19	-1.6	-1.0	-0.5
Ecuador	122	94	78	63	59	52	3.4	4.3	5.2
Egypt	64	52	45	39	37	42	1.7	3.2	5.4
El Salvador	73	62	54	48	46	37	1.3	2.7	4.3
Equatorial Guinea	454	344	308	296	301	34	0.3	2.4	4.5
Eritrea	1280	804	567	518	480	63	3.6	5.8	7.9
Estonia	29	18	11	10	9	69	5.0	7.1	9.6
Eswatini	521	532	450	435	437	16	-1.6	1.0	3.0
Ethiopia	1030	865	597	446	401	61	3.0	5.5	7.4
Fiji	51	46	39	35	34	33	0.8	2.4	4.0
Finland	6	5	4	3	3	50	1.7	3.6	5.2
France	10	9	9	8	8	20	0.2	1.4	2.6
Gabon	380	348	314	261	252	34	0.1	2.4	4.3



Table 2 (continued). Trends in estimates of maternal mortality ratio (MMR, maternal deaths per 100 000 live births), by country and territory, 2000–2017^a

Country and territory	MMR point estimates ^{a,b}					Overall change in MMR between 2000 and 2017 ^c (%)	Average annual rate of reduction (ARR) point estimate and range of uncertainty interval on ARR between 2000 and 2017 (UI: 80%) (%)		
	2000	2005	2010	2015	2017		Lower UI	Average ARR point estimate ^d	Upper UI
Gambia	932	756	661	625	597	36	0.6	2.6	4.5
Georgia	31	39	32	27	25	19	0.1	1.3	2.5
Germany	7	6	6	5	7	0	-1.3	0.2	1.8
Ghana	484	371	339	320	308	36	0.9	2.7	4.5
Greece	3	3	3	3	3	0	-1.3	0.6	2.7
Grenada	38	33	29	25	25	34	0.4	2.4	4.5
Guatemala	161	142	129	103	95	41	2.5	3.1	3.7
Guinea	1020	920	747	699	576	44	1.6	3.4	4.9
Guinea-Bissau	1210	979	779	694	667	45	1.0	3.5	5.4
Guyana	231	223	179	172	169	27	0.4	1.8	3.3
Haiti	437	459	506	488	480	-10	-2.7	-0.6	1.3
Honduras	85	77	74	67	65	24	0.4	1.6	2.7
Hungary	16	15	13	12	12	25	-0.6	2.0	4.2
Iceland	6	5	5	4	4	33	0.7	2.7	4.9
India	370	286	210	158	145	61	4.2	5.5	7.0
Indonesia	272	252	228	192	177	35	0.5	2.5	4.3
Iran (Islamic Republic of)	48	34	22	17	16	67	5.0	6.3	8.0
Iraq	79	127	70	83	79	0	-1.9	0.0	2.5
Ireland	7	7	6	6	5	29	0.0	2.5	4.3
Israel	7	5	4	3	3	57	3.4	4.9	6.5
Italy	4	3	2	2	2	50	3.3	5.1	6.9
Jamaica	77	80	79	78	80	-4	-1.5	-0.2	0.9
Japan	9	7	6	5	5	44	2.1	3.8	5.7
Jordan	70	62	53	48	46	34	0.6	2.4	4.7
Kazakhstan	61	43	22	12	10	84	9.2	10.9	12.6
Kenya	708	618	432	353	342	52	2.4	4.3	5.9
Kiribati	136	119	112	97	92	32	0.1	2.3	4.7
Kuwait	10	10	10	11	12	-20	-2.8	-0.7	1.2
Kyrgyzstan	79	82	79	66	60	24	0.0	1.6	2.8
Lao People's Democratic Republic	544	410	292	209	185	66	4.4	6.3	8.0
Latvia	34	30	26	23	19	44	1.6	3.5	5.0

EXECUTIVE SUMMARY

Table 2 (continued). Trends in estimates of maternal mortality ratio (MMR, maternal deaths per 100 000 live births), by country and territory, 2000–2017^a

Country and territory	MMR point estimates ^{a,b}					Overall change in MMR between 2000 and 2017 ^c (%)	Average annual rate of reduction (ARR) point estimate and range of uncertainty interval on ARR between 2000 and 2017 (UI: 80%) (%)		
	2000	2005	2010	2015	2017		Lower UI	Average ARR point estimate ^d	Upper UI
Lebanon	28	24	23	29	29	-4	-2.9	-0.4	1.6
Lesotho	614	679	594	574	544	11	-1.6	0.7	2.5
Liberia	894	816	708	691	661	26	-0.4	1.8	3.5
Lithuania	17	14	10	9	8	53	2.1	4.2	6.5
Luxembourg	10	9	8	5	5	50	2.4	4.5	6.3
Madagascar	559	526	453	363	335	40	1.0	3.0	5.0
Malawi	749	610	444	370	349	53	2.3	4.5	6.5
Malaysia	38	31	30	30	29	24	0.2	1.5	2.7
Maldives	125	75	67	54	53	58	2.1	5.1	7.3
Mali	836	691	660	620	562	33	0.3	2.3	3.9
Malta	9	8	8	7	6	33	0.1	2.3	4.4
Mauritania	834	826	824	785	766	8	-2.0	0.5	2.6
Mauritius	59	53	66	73	61	-3	-2.8	-0.2	1.9
Mexico	55	54	46	36	33	40	2.6	3.0	3.3
Micronesia (Federated States of)	154	133	110	95	88	43	1.0	3.3	5.6
Mongolia	155	98	66	47	45	71	5.8	7.3	8.8
Montenegro	12	9	7	6	6	50	2.1	4.3	6.9
Morocco	188	131	92	74	70	63	4.2	5.8	7.5
Mozambique	798	577	412	318	289	64	3.9	6.0	7.7
Myanmar	340	299	265	246	250	26	-0.7	1.8	4.1
Namibia	348	346	266	217	195	44	1.4	3.4	4.9
Nepal	553	415	305	236	186	66	4.0	6.4	8.4
Netherlands	13	11	7	6	5	62	3.8	5.6	7.5
New Zealand	12	11	11	10	9	25	0.5	1.8	3.3
Nicaragua	162	131	112	101	98	40	1.2	3.0	4.5
Niger	813	755	663	555	509	37	0.8	2.7	4.5
Nigeria	1200	1080	978	931	917	24	-0.8	1.6	3.5
Norway	6	5	4	3	2	67	3.4	5.3	7.8
Oman	20	19	18	19	19	5	-1.0	0.3	1.6
Pakistan	286	237	191	154	140	51	2.0	4.2	6.4
Panama	91	88	79	58	52	43	2.1	3.3	4.7



Table 2 (continued). Trends in estimates of maternal mortality ratio (MMR, maternal deaths per 100 000 live births), by country and territory, 2000–2017^a

Country and territory	MMR point estimates ^{a,b}					Overall change in MMR between 2000 and 2017 ^c (%)	Average annual rate of reduction (ARR) point estimate and range of uncertainty interval on ARR between 2000 and 2017 (UI: 80%) (%)		
	2000	2005	2010	2015	2017		Lower UI	Average ARR point estimate ^d	Upper UI
Papua New Guinea	249	200	168	151	145	42	0.9	3.2	5.5
Paraguay	162	136	107	89	84	48	2.5	3.9	5.5
Peru	144	118	104	94	88	39	1.5	2.9	4.6
Philippines	160	156	144	127	121	24	-0.3	1.7	3.3
Poland	7	4	3	2	2	71	4.5	6.6	8.9
Portugal	10	9	9	9	8	20	-0.6	1.6	3.3
Puerto Rico	26	23	21	20	21	19	-0.6	1.3	2.7
Qatar	14	12	10	9	9	36	0.5	2.6	4.5
Republic of Korea	17	15	15	12	11	35	1.4	2.4	3.6
Republic of Moldova	44	34	29	22	19	57	3.3	4.9	6.6
Republic of North Macedonia	13	10	8	8	7	46	1.7	3.5	5.8
Romania	54	35	27	21	19	65	4.3	6.3	8.3
Russian Federation	56	42	25	18	17	70	5.0	6.9	8.9
Rwanda	1160	643	373	275	248	79	7.0	9.1	10.7
Saint Lucia	86	83	109	115	117	-36	-4.7	-1.8	0.8
Saint Vincent and the Grenadines	80	59	63	64	68	15	-0.9	0.9	3.1
Samoa	88	72	58	45	43	51	1.7	4.2	6.6
Sao Tome and Principe	179	163	140	130	130	27	-0.1	1.9	4.3
Saudi Arabia	24	22	19	17	17	29	-0.2	2.1	4.5
Senegal	553	519	447	346	315	43	1.4	3.3	4.8
Serbia	13	12	12	13	12	8	-2.0	0.6	2.9
Seychelles	53	55	55	54	53	0	-2.4	0.0	2.4
Sierra Leone	2480	1760	1360	1180	1120	55	2.2	4.7	6.6
Singapore	13	13	10	9	8	38	0.4	2.9	5.3
Slovakia	8	7	6	6	5	38	0.6	2.3	4.0
Slovenia	12	10	8	7	7	42	1.6	3.3	5.0
Solomon Islands	245	188	141	112	104	58	3.0	5.0	7.0
Somalia	1210	1040	985	855	829	31	0.3	2.2	4.6
South Africa	160	201	171	125	119	26	0.1	1.7	3.0
South Sudan	1730	1480	1100	1110	1150	34	0.1	2.4	4.5

Table 2 (continued). Trends in estimates of maternal mortality ratio (MMR, maternal deaths per 100 000 live births), by country and territory, 2000–2017^a

Country and territory	MMR point estimates ^{a,b}					Overall change in MMR between 2000 and 2017 ^c (%)	Average annual rate of reduction (ARR) point estimate and range of uncertainty interval on ARR between 2000 and 2017 (UI: 80%) (%)		
	2000	2005	2010	2015	2017		Lower UI	Average ARR point estimate ^d	Upper UI
Spain	5	5	4	4	4	20	0.0	1.7	3.0
Sri Lanka	56	45	38	36	36	36	1.7	2.7	3.5
State of Libya	70	57	53	70	72	-3	-2.6	-0.2	2.3
Sudan	667	529	408	320	295	56	2.7	4.8	7.1
Suriname	221	164	148	122	120	46	2.3	3.6	5.4
Sweden	5	5	4	4	4	20	-0.2	1.5	2.9
Switzerland	7	7	6	5	5	29	0.4	2.6	4.2
Syrian Arab Republic	26	25	27	30	31	-19	-4.0	-1.1	1.3
Tajikistan	53	32	23	18	17	68	4.3	6.8	9.5
Thailand	43	43	42	38	37	14	-0.5	0.8	2.1
Timor-Leste	745	415	219	160	142	81	7.7	9.8	11.9
Togo	489	492	440	398	396	19	-0.5	1.3	3.1
Tonga	77	66	57	54	52	32	0.0	2.3	4.6
Trinidad and Tobago	81	76	71	68	67	17	-0.6	1.1	2.7
Tunisia	66	51	46	46	43	35	0.7	2.4	4.8
Turkey	42	33	24	19	17	60	3.6	5.3	7.5
Turkmenistan	29	18	10	8	7	76	5.9	8.2	10.5
Uganda	578	491	430	387	375	35	0.5	2.5	4.2
Ukraine	35	33	25	21	19	46	1.6	3.6	5.5
United Arab Emirates	6	5	4	3	3	50	1.9	4.0	6.9
United Kingdom of Great Britain and Northern Ireland	10	11	10	8	7	30	1.9	2.7	3.6
United Republic of Tanzania	854	721	644	556	524	39	0.9	2.9	4.4
United States of America	12	13	15	18	19	-58	-3.3	-2.6	-1.9
Uruguay	26	22	17	18	17	35	1.2	2.4	3.6
Uzbekistan	41	38	31	30	29	29	0.1	2.0	3.6
Vanuatu	140	113	92	76	72	49	1.6	4.0	6.1
Venezuela (Bolivarian Republic of)	119	113	117	115	125	-5	-2.2	-0.3	1.3



Table 2 (continued). Trends in estimates of maternal mortality ratio (MMR, maternal deaths per 100 000 live births), by country and territory, 2000–2017^a

Country and territory	MMR point estimates ^{a,b}					Overall change in MMR between 2000 and 2017 ^c (%)	Average annual rate of reduction (ARR) point estimate and range of uncertainty interval on ARR between 2000 and 2017 (UI: 80%) (%)		
	2000	2005	2010	2015	2017		Lower UI	Average ARR point estimate ^d	Upper UI
Viet Nam	68	54	47	45	43	37	0.5	2.6	4.6
West Bank and Gaza Strip ^e	70	59	45	32	27	61	3.4	5.6	8.1
Yemen	301	242	192	169	164	46	1.7	3.6	6.1
Zambia	528	421	305	232	213	60	3.7	5.3	6.8
Zimbabwe	579	685	598	480	458	21	0.1	1.4	2.9

^a Estimates have been computed to ensure comparability across countries, thus they are not necessarily the same as official statistics of the countries, which may use alternative rigorous methods.

^b MMR estimates have been rounded according to the following scheme: < 100 rounded to nearest 1; 100–999 rounded to nearest 1; and ≥ 1000 rounded to nearest 10; and all calculations are based on rounded numbers.

^c Overall change for the whole period since the first year of the millennium (from 1 January 2000).

^d Average annual rate of reduction, for the whole period from the first year of the millennium (1 January 2000).

^e UNICEF, UNPFA, World Bank Group and UNPD refer to this territory as the State of Palestine.



For more information, please contact:

Department of Reproductive Health and Research
World Health Organization
Avenue Appia 20
CH-1211 Geneva 27
Switzerland

Email: reproductivehealth@who.int

www.who.int/reproductivehealth

WHO/RHR/19.23 © World Health Organization 2019

Some rights reserved. This work is available under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 IGO licence (CC BY-NC-SA 3.0 IGO; <https://creativecommons.org/licenses/by-nc-sa/3.0/igo>).